Far-infrared spectroscopic imaging of interstellar material around eta-Carinae

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To study interstellar material around eta Carinae, we have performed far-infrared imaging stectroscopy observations using a Fourier transform spectrometer onboard the Japanese infrared satellite AKARI. We have obtained images of CII, NII, OIII covering the area 15×10 arcmin^2 centered at eta Carinae. The OIII and CII lines were found widely spread and peaking toward Carinae nebulae, which gives an indication of interaction of ejecta and molecular clouds. NII line is week and only partially observed around eta Carinae. Comparison with ionized hydrogen and non-thermal emission at millimeter-wave OIII emission is coincident with ionized region while CII emission is peaked at different positions but similar to the position angle of the Homunculus nebulae, which may indicate that we are observing interacting site of old ejecta with molecular clouds.